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ABSTRACT

Major objectives of Project PACE have been to foster the integration of special education students back into regular vocational programs and to deal directly with job simulation development. The student population used in this study consisted of sixty culturally deprived special education students (control/experimental groups) from two Portland, Maine inner-city junior high schools. Specific goals of this project were to initiate a sequential, pre-vocational course for slow learners covering basic math, practical aspects of money management, and reading skills. Additional goals were to develop student academic criteria for high school placement; to develop pre/post teacher attitude scales; to determine the effect of the experimental curriculum on daily attendance, dropout rate, academic performance, social behavior, and teacher attitudes. Staff of the experimental group were two special education teachers and two full-time aides. Students in the control group received instruction in the regular classroom with no access to the specialized programs. In general, the results indicated difference in favor of the experimental group on all variables being measured. Recommendations were the development of more specific diagnostic and evaluative tools, use of larger student samples in future studies, and adoption of a State plan. Two-thirds of the document is devoted to appendixes. (EA)

ED 087875

FINAL REPORT

PROJECT PACE

RESEARCH AND DEVELOPMENT

PROJECT

CONDUCTED UNDER PART C

OF PUBLIC LAW 90-576

Frank M. Schmidt

Portland Public Schools

107 Elm Street

Portland, Maine 04111

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The project reported herein was performed pursuant to a grant from the Bureau of Vocational Education, Maine Department of Educational and Cultural Services. Grantees undertaking such projects under Government sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official Department of Educational and Cultural Services position or policy.

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SUMMARY OF THE REPORT

A. Time Period Covered by the Project.

July 1, 1972 - June 30, 1973

B. Goals and Objectives of the Project.

1. To initiate a sequential, pre-vocational course for slow learners.

2. To develop special curriculum in the area of pre-vocational training for slow learners.

3. To administer a concentrated curriculum in basic math and reading skills.

4. To teach the practical aspects of money management.

5. To teach a sight vocabulary using pre-vocationally oriented materials such as job applications, newspaper ads, bus and other transportation schedules, bank and check books.

6. To develop a list of academic criteria necessary for each student to qualify for high school placement.

7. To develop pre and post teacher attitude scales.

8. To determine the effect of the experimental curriculum on:
   a. daily attendance.
   b. dropout rate.
   c. academic performance.
   d. social behavior.
   e. teacher attitudes.

C. Specific Procedures.

1. Conduct summer workshop and continuous training for teachers involved in the project. (See schedule attached).
   a. To become knowledgeable of Project PACE design.
   b. To develop a self-made teacher attitudinal inventory.
   c. To select appropriate materials and equipment.
   d. To develop data collecting sheets.
   e. To establish specific evaluation procedures.
   f. To individualize units.
   g. To develop an experimental curriculum emphasizing pre-vocational skills.
   h. To disseminate material and results of summer workshop to School Department personnel and State Department of Education.

2. Support efforts of teachers through:
   a. Use of consultants.
   b. Opening some phases of the in-service training to teachers in the upper grades who will ultimately receive these students.

3. Establish an Advisory Council.

4. Implement a concentrated individualized curriculum in the previously stated basic skill areas.

5. Employ a special vocational counselor to:
   a. Coordinate the functions of community agencies and school staff, both teaching and guidance personnel, in assisting pupils to realize more fully their learning potential.
   b. Counsel with students relative to their achievement, aspirations, problems, and interest in vocational pursuits.
   c. Assist teachers in working with individual student problems.
   d. Counsel in career education.
   e. Assist in finding occupational resources for future work experience.
   f. Direct the administration of tests.
   g. Assist the project director in the implementation of the program and in collating the data.

6. Keep consistent records of the experimental and control groups and make periodic reports.

7. Work closely with the evaluator to ascertain that the project objectives are being met.

8. Review and select programmed material to maximize pre-vocational experience.

Cassette tapes will be used to individualize instruction so that each student may work at his own rate and interest level.

D. Results; Accomplishments.

In line with the eight objectives listed in this report, the results are summarized as follows. All of the data collection and graphic comparisons appear in the body of the report.

Objectives	Accomplishments
1. To initiate a sequential, pre-vocational course for slow learners.	For objectives 1, 2, and 3, the curriculum guide submitted earlier in the year was utilized. Changes in math and reading through the use of the curriculum guide and the pre-vocational word list appear in the body of this report.
2. To develop special curriculum in the area of pre-vocational training for slow learners.	
3. To administer a concentrated curriculum in basic math and reading skills.	
4. To teach the practical aspects of money management.	For the purposes of teaching money management, "Family Financial Management" by Southwestern Publishing Company was used. No special tests were

		used to determine changes in this variable. Changes are reflected in the math portion of the Metropolitan Achievement Test.
5.	To teach sight vocabulary using pre-vocationally oriented materials.	Changes in performance in reading are noted in the body of this report.
6.	To develop a list of promotion criteria.	As was stated previously, this objective was unfeasible due to large numbers of students coming into the program.
7.	To develop pre and post teacher attitude scales.	Results of the teacher attitude scale appear in the body of this report.
8.	To determine the effect of experimental curriculum on: attendance dropout rate academic performance social behavior teacher attitudes	All results on this objective appear in the body of the report.

E. Evaluation

Evaluation of the proejct will be based on Measurements at the end of the first year. These measurements will include the following:

1. Average number of days of absenteeism.
2. The number of students who have dropped out, for each group.
3. Achievement on a standardized test - specifically the Metropolitan Achievement Test.
4. Scores on Donald Super's work values inventory.
5. Scores on the self-made pre-vocational picture-vocabulary list.
6. Results of self-made teacher attitude scale.

Dr. Joseph Trippi of the University of Maine at Farmington was the outside evaluator for the project. Dr. Trippi made several visits to the classrooms, and was involved in the preparation of all of the quarterly reports. His report will accompany this final report.

F. Conclusions and Recommendations

It is the conclusion of the staff of Project PACE that more studies related to vocational education programs for the handicapped be carried out utilizing larger samples where possible.

It is also the conclusion of this group that standardized achievement

tests presently on the market do not effectively reflect changes in performance relative to specific vocabulary or specialized curriculums being taught.

In line with these conclusions, it is the recommendation of this staff that more specific diagnostic and evaluative tools be developed that directly measure each specific variable being taught.

BODY OF THE REPORT

A. Problem Areas.

Project PACE was directed toward Portland's two inner-city junior high schools, specifically to the special education students located in those two schools.

The two schools in question are centered geographically in the lower economic areas of Portland. The students involved in the project, in most cases, are experiencing cultural deprivation. Historically these students may or may not finish school and go on to seek some sort of semi- or unskilled jobs. In many cases these jobs are short-lived, due to inability to respond to authority figures or dissatisfaction with the duties of the job. In any case, the previous failures point to the fact that this type of student is not prepared in the basic understanding of vocational awareness and specific job skills.

If the public schools provide the opportunity for under achieving students to experience pre-vocational programs which include the areas of vocational awareness and social and academic skills related to various vocations, successful job experiences should likely be increased.

Another long-standing inequity in the public schools is the fact that special education students have been segregated from their peers and placed into self-contained classrooms. In this situation, these students have been denied access to vocational programs.

The original proposal of Project PACE indicated that one of its major objectives was to foster the integration of special education students back into regular vocational programs. It has done so, as 100% of the students in the program are integrated into three or more regular classes.

Few programs and studies to date deal directly with the development of job simulation, which is the long-range goal of the project.

The work-study Handbook for Educable Mentally Retarded Minors Enrolled in High School Programs for California Public Schools (California State Department of Education, 1971) is one of these and will serve as a guide for the development of job simulation programs in the future.

B. Goals and Objectives of the Project.

The goals and objectives have been reviewed in the summary. In depth review of the results of tests and other evaluative data related to these objectives will be discussed in section D of this report.

C. Description of the General Project Design and Procedures

An outline of the general design is included below.

Experimental:	Control:
15 students from King Junior High 15 students from Jack Junior High Regular classroom integration plus access to PACE curriculum, access to career counseling from PACE counselor.	15 students from King Junior High 15 students from Jack Junior High Regular classroom program with no access to PACE program. No access to career counseling.

The student population used in both the control and experimental groups was made up of 60 students located in two schools. Thirty control and 30 experimental were equally divided among grades 7, 8, and 9. Both King Junior High School and Jack Junior High School are situated in the City of Portland and enroll a large number of lower middle class students. The students chosen for Project PACE are among these lower income families. In addition, these students qualify for special education programs for the mentally retarded according to present state guidelines.

The staff of the experimental group were two special education teachers and two full-time aides. These two teachers utilized the same materials to carry out the PACE curriculum. They each worked with their students on a rotating basis, as all were integrated into regular classes on a part-time basis according to their ability. Each student, however, received at least 2-1/2 hours daily of instruction from the experimental teacher.

A list of materials used is included in the appendix. Each teacher used programmed tapes, filmstrips, language masters, and other equipment and materials listed in the appendix to carry out the program.

Students in the control group received instruction in the regular classroom with no access to these specialized programs.

D. Results and Accomplishments of the Project.

The following section shows results of the program with regard to attendance, achievement, pre-vocational vocabulary, and dropout figures. In addition to these results, discussions of the teacher attitude survey, Donald Super's work values inventory, and the self-made student profile sheet.

The teacher attitude survey was developed under the guidance of Dr. Jack Gordon, the director of research and evaluation for the Portland Schools. Even though the scale asked only a check system, many teachers found it necessary to put their feelings in writing using the margins and the opposite side of the paper.

A copy of the survey and the results are summarized on the next three pages.

Donald Super's Work Values Inventory provides the counselor with a raw score from 3-15 in each of the 15 categories as briefly explained on the WVI rating sheet (see appendix). The WVI manual lists the national mean score and the standard deviation for each category by sex and grade level. The counselors are able to see the relationship of their scores to the scores of their peer group.

Judgments might be drawn as to how or why students from an area in Maine scored as they did in respect to their socio-economic background and previous educational experiences.

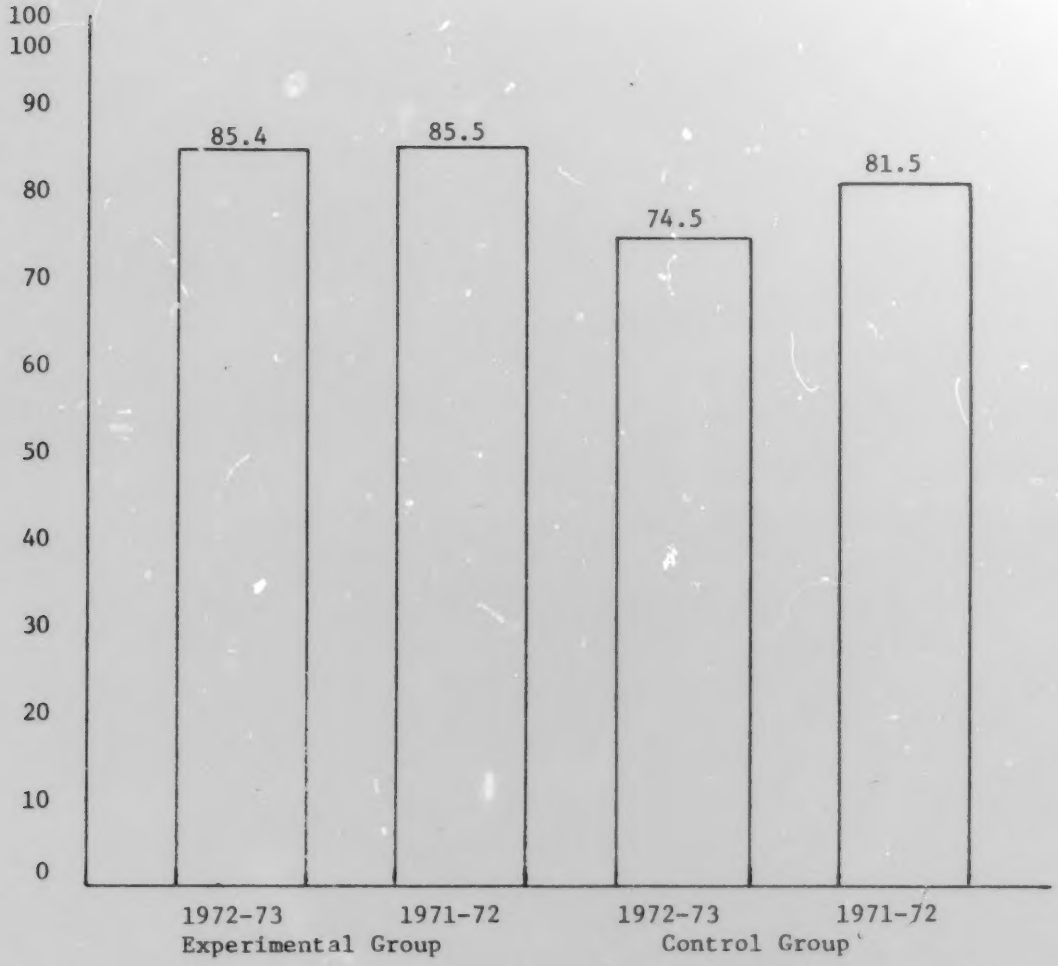
The combined scores for 7th, 8th, and 9th grades are listed in the appendix.

E. Evaluation of the Project.

The crux of the evaluation of the project is contained in the Results section of this report. An additional evaluation report will be filed under separate cover by the outside evaluator.

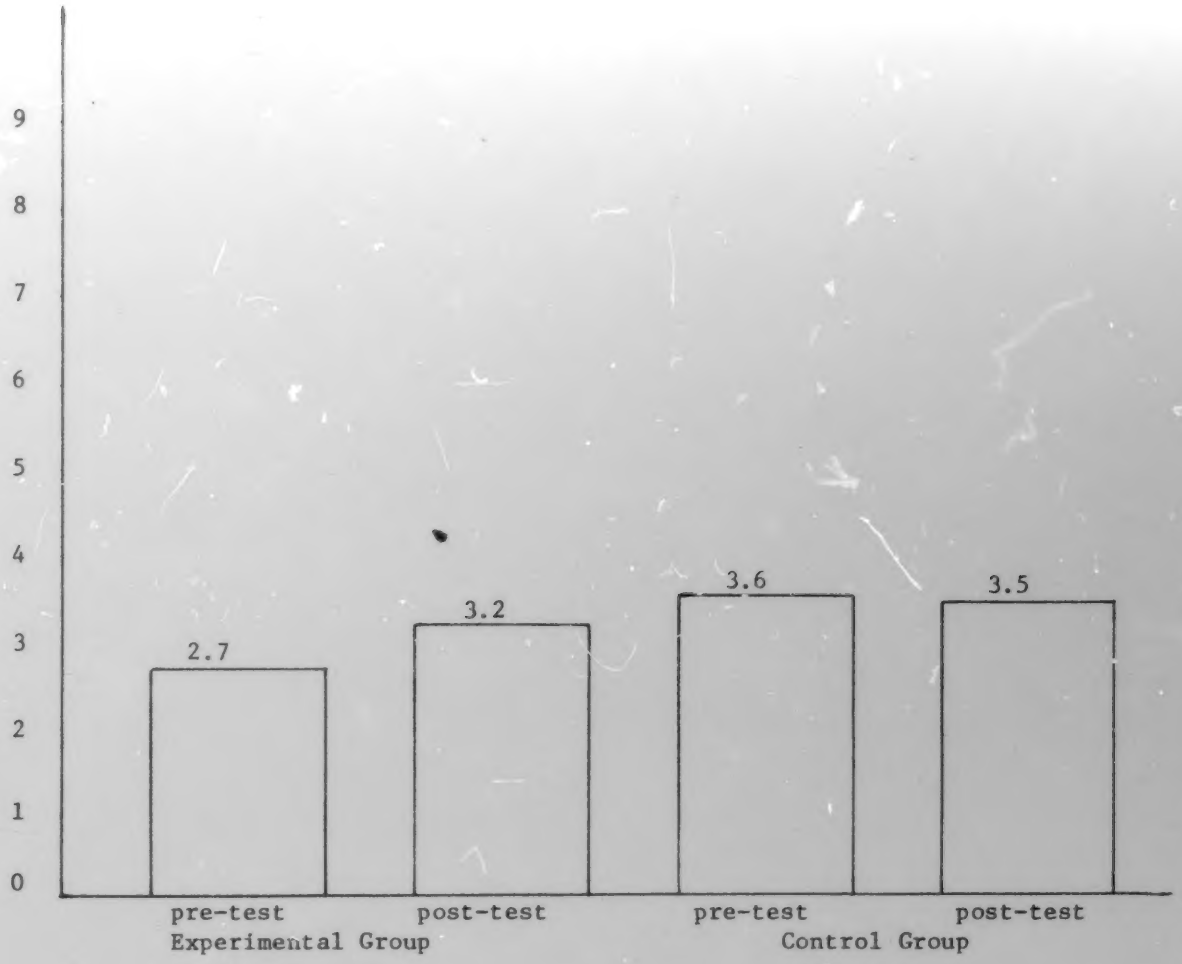
In general the results show difference in favor of the experimental group on all variables being measured. Due to lack of access to the computer and timing involved inferential testing will be conducted in September.

Table 1
Comparison of Attendance for 1972-73 School Year



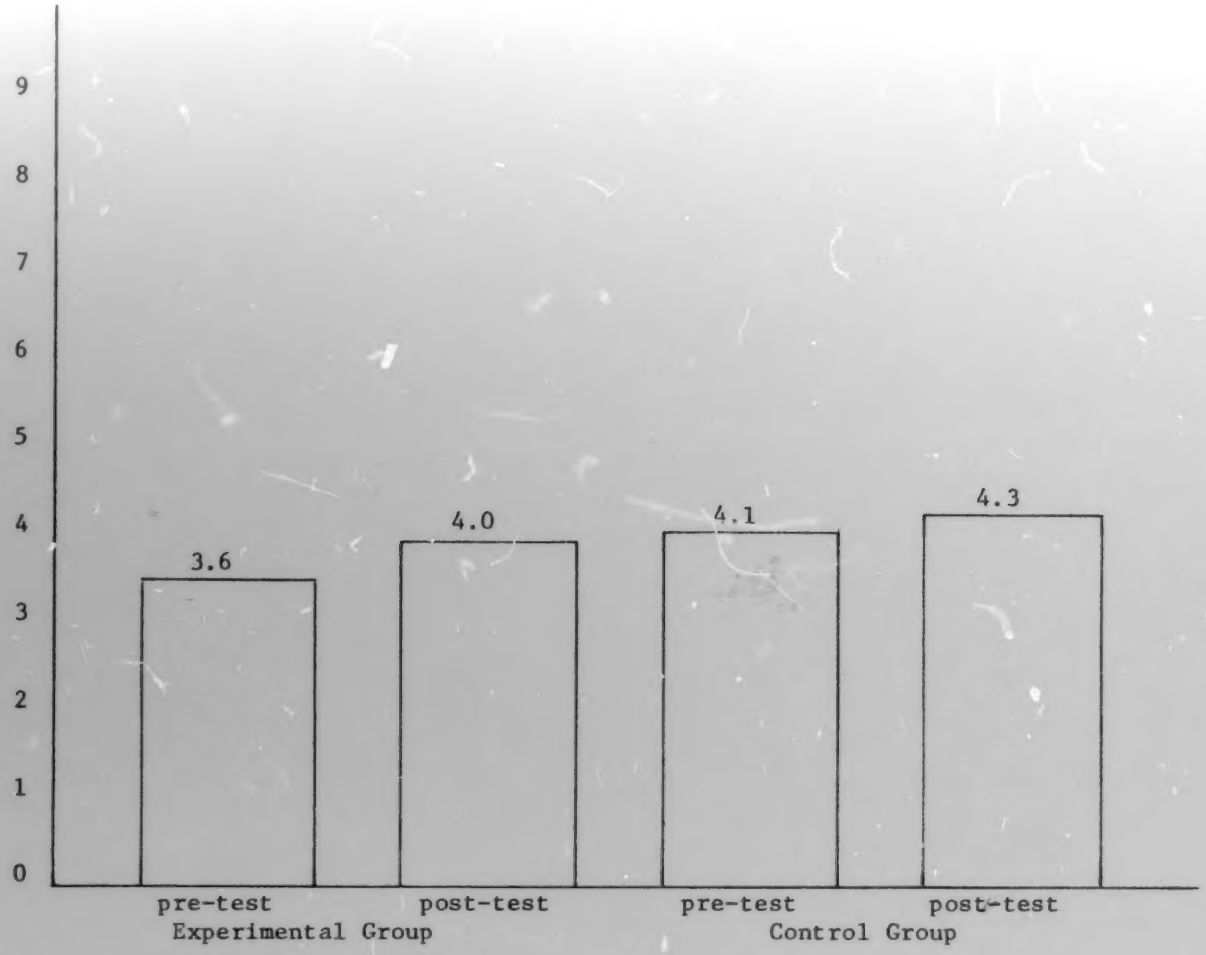
These figures were calculated by dividing each student's actual number of days attended, during the first three months of school, by the total days enrolled, and then averaging the class figures. This figure shows that on the average, the students in the experimental group attended school 11% more regularly than the students in the control group. The experimental group remained stable compared to last year, while the control group shows a 6.8% decrease from last year's figures.

Table 2
Performance on Metropolitan Achievement Test
Reading



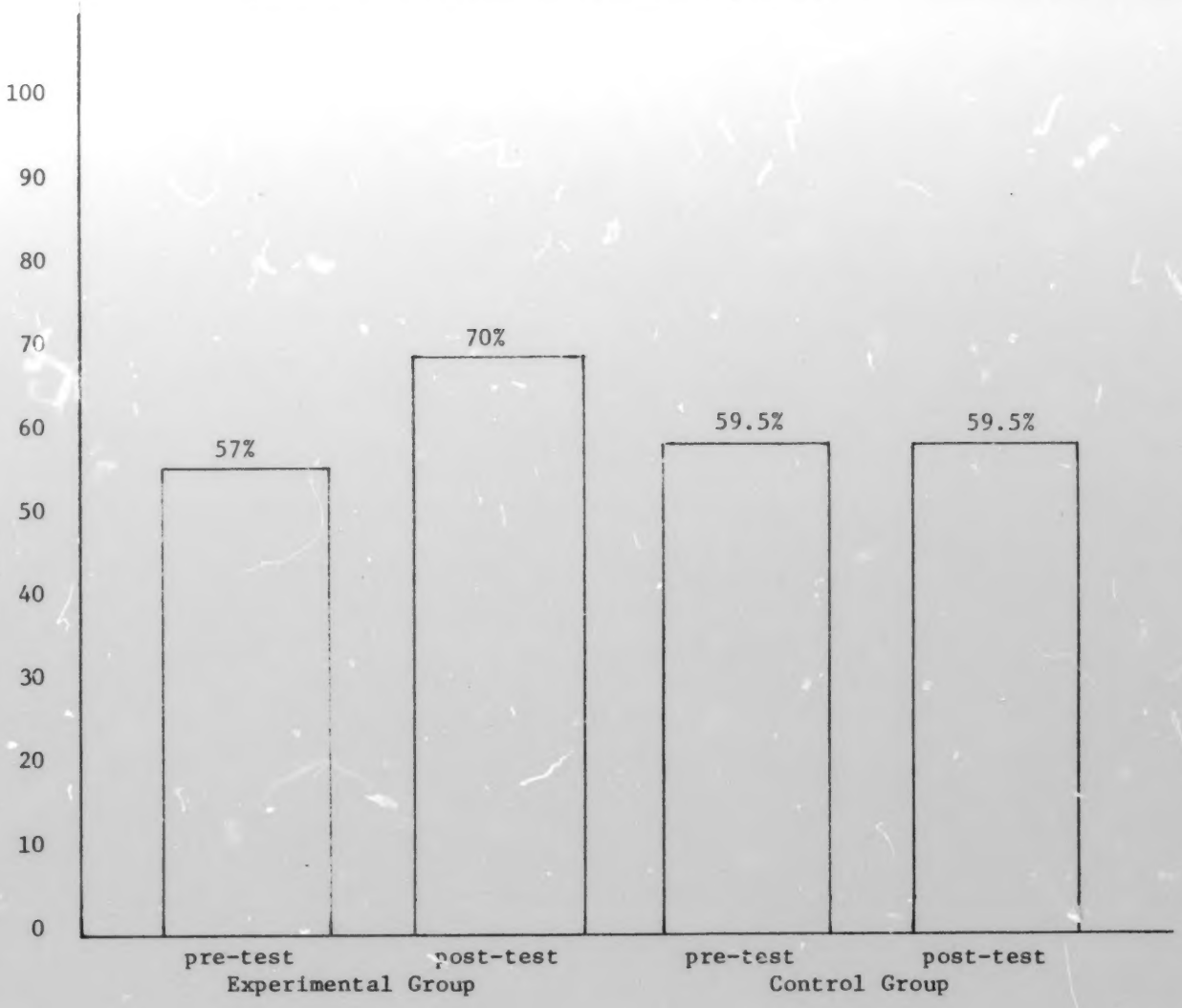
This figure shows that, on the average, the experimental group showed an increase of 5 months in reading while the control group showed a decrease of 1 month on the same test.

Table 3
Performance on Metropolitan Achievement Test
Math



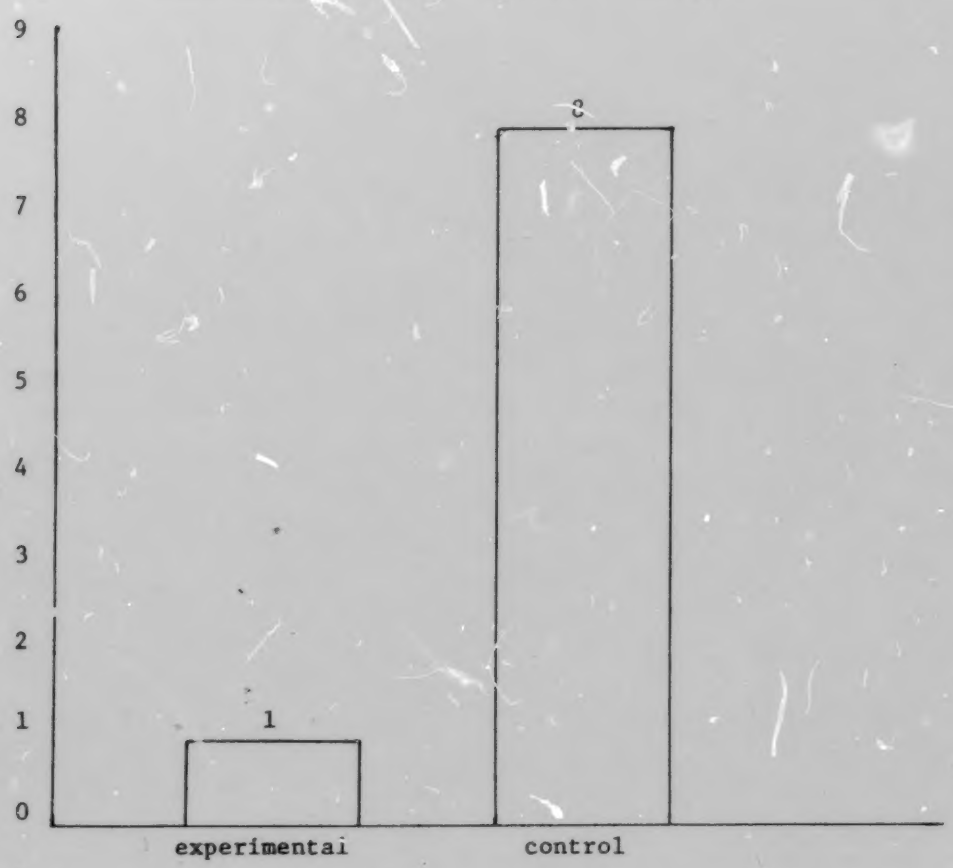
This figure shows that, on the average, the experimental group improved in math 4 months while the control group improved by 2 months.

Table 4
Performance on Pre-vocational Picture Test
(Computed as Percent of Correct Responses)



This figure shows that on the average the experimental group showed a 13% increase in correct response from pre-test to post-test, while the control group showed no increase at all.

Table 5
Comparison of Dropout for 1972-73 Year



This figure shows that during the duration of this project, the control group lost 8 students to dropout for various reasons, while the experimental group lost only one. This was coupled with much more regular attendance on the part of the experimental group.

Table 6

Teacher Attitude Survey

School	Weak - 1 Strong - 10	Too Costly - 1 Too Inexpensive - 10	Harmful - 1 Helpful - 10	Worthless - 1 Worthwhile - 10	Inadequate - 1 Adequate - 10	Staffing Inadequate -1 Adequate - 10
Lyman Moore	6.50	8.33	3.00	5.67	1.71	1.42
Lincoln Junior	1.25	9.17	3.28	2.12	1.11	1.45
King Junior	3.61	7.00	7.00	6.95	3.20	2.76
Jack Junior	8.50	6.00	9.50	9.60	6.27	4.65

Table 1 shows the five different categories used to evaluate services for Special Education students in the four Junior High Schools. King and Jack Junior High schools are the two schools where Project PACE is housed.

Each category is evaluated on a scale of from one to ten. Comparisons of each category are made on the following page between the two schools, without Project PACE, and the two schools with Project PACE.

Table 7
Teacher Attitude Survey
(By Category)

Category	Schools Without PACE	Schools With PACE Program	Comments
Weak - 1 Strong - 10	3.88	5.56	Using a subject measurement of weak-strong, schools without PACE rated their program 3.88 on the weak side of the scale and the schools with PACE, rated this program 5.56 on the strong side of the scale.
Too Costly - 1 Inexpensive - 10	8.75	6.50	On this category, the schools without PACE rated the programs 8.75 on the Too Inexpensive side of the scale, and on several occasions indicated in writing that they felt more money needed to be appropriated to their particular schools. The schools with PACE rated their program 6.50 on the inexpensive side, and in several cases indicated that PACE was good for those students it was reaching, but need to be expanded to reach more students.
Harmful - 1 Helpful - 10	3.14	8.25	On this category it is obvious that the schools with PACE feel that the program is helpful, while the two Junior Highs without the program feel that lack of the program could be more harmful than helpful.
Worthless - 1 Worthwhile - 10	3.89	8.27	According to the averages the schools without PACE rated their program at the lower end of the scale at 3.89, more worthless than the schools with PACE who rated PACE 8.27 on the 10 point scale. Many written comments indicated the value of PACE.

Table 7
Teacher Attitude Survey
(By Category)

Category	Schools Without PACE	Schools With PACE Program	Comments
Inadequate - 1 Adequate - 10	1.41	4.73	In general, the schools without PACE rated their program very inadequate, while the schools with PACE, even though they have rated the program highly in all other categories, felt that it could be servicing many more students.
Staffing Inadequate-1 Adequate - 10	1.43	3.70	With regard to staffing, almost every returned evaluation sheet indicated in writing that more staff was needed.

F. Conclusions, Implications, and Recommendations for the Future

Based on the expected long-range results of the PACE program, implications are that students enrolled in this program will gain (1) better job skills and (2) better understandings of the characteristics and work performance demanded by an employer. The plan utilized in PACE can be adopted by any school system and modified to meet the local employment situation.

The immediate results show increases in all areas of performance in favor of the experimental group, as can be seen in the preceding sections.

Recommendations include:

1. Replication of this study in other school systems.
2. Adoption of a state plan, utilizing similar programs as models for the development of state-wide programs.

The long-range recommendation is that career-oriented programs for disadvantaged and handicapped students begin at the elementary level and develop sequentially through grade 12. This sequential program should create opportunities for increasing vocational awareness through the use of job simulation.

APPENDIX

PROJECT P.A.C.E. ATTENDANCE RECORD
JACK JR. HIGH SCHOOL
EXPERIMENTAL GROUP
1972 - 73

STUDENT	DAYS IN ATTENDANCE BY MONTH										
	SEPT	OCT	NOV	DEC	JAN	FEB	MARCH	APRIL	MAY	JUNE	TOTAL
1. Cobb, Richard	8/15	8/20	12/19	12/16	15/21	8/15	0/22	0/16	0/22	0/11	63/177
2. DiBiase, Robert	13/15	17/20	17/19	12/16	8/21	8/15	14/22	10/16	17/22	10/11	126/177
3. Centafante, Dianne	14/15	18/20	19/19	16/16	21/21	15/15	22/22	15/16	22/22	11/11	173/177
4. Fournier, Stephen	15/15	20/20	19/19	16/16	20/21	14/15	22/22	16/16	21/22	11/11	174/177
5. Graffam, Terry	14/15	13/20	15/19	11/16	15/21	11/15	15/22	8/16	16/22	9/11	127/177
6. Howe, Vivian	14/15	20/20	17/19	15/16	20/21	15/15	17/22	12/16	16/22	11/11	157/177
7. Maynard, Kathy	14/15	19/20	19/19	16/16	20/21	15/15	21/22	16/16	22/22	11/11	173/177
8. Manchester, Kathy	13/15	19/20	13/19	12/16	13/21	12/15	13/22	10/16	18/22	9/11	132/177
9. Murphy, Patrick	14/15	20/20	19/19	15/16	17/21	13/15	18/22	13/16	19/22	10/11	158/177
10. Pettis, Lynn	13/15	17/20	17/19	15/16	17/21	12/15	18/22	13/16	17/22	10/11	149/177
11. Price, David	15/15	20/20	14/19	14/16	16/21	15/15	18/22	11/16	19/22	11/11	153/177
12. Shepard, Peter	15/15	19/20	17/19	15/16	21/21	14/15	14/22	12/16	19/22	7/11	153/177
13. Shepard, Richard	15/15	17/20	19/19	16/16	20/21	14/15	19/22	16/16	20/22	10/11	166/177
14. Waterhouse, Philip	15/15	20/20	19/19	16/16	20/21	15/15	22/22	16/16	22/22	11/11	176/177
15. Maynard, Donna	14/15	20/20	19/19	15/16	20/21	13/15	22/22	14/16	22/22	10/11	169/177

PROJECT P.A.C.E. ATTENDANCE RECORD
KING JR. HIGH SCHOOL
EXPERIMENTAL GROUP
1972 - 73

STUDENT	DAYS IN ATTENDANCE BY MONTH										
	SEPT	OCT	NOV	DEC	JAN	FEB	MARCH	APRIL	MAY	JUNE	TOTAL
1. Colbath, Rose	15/15	20/20	19/19	16/16	21/21	15/15	22/22	15/16	21/22	11/11	174/177
2. Cummings, Katherine	15/15	20/20	19/19	16/16	21/21	14/15	22/22	16/16	22/22	11/11	175/177
3. Curran, Joanna	15/15	12/20	13/19	10/16	16/21	12/15	12/22	8/16	14/22	7/11	118/177
4. Huntley, Valerie	14/15	19/20	15/19	12/16	20/21	10/15	18/22	13/16	17/22	11/11	148/177
5. Lunt, Sherry	15/15	20/20	16/19	15/16	18/21	12/15	19/22	13/16	20/22	11/11	158/177
6. McGann, Karen	14/15	19/20	16/19	10/16	17/21	12/15	22/22	13/16	19/22	11/11	152/177
7. Peavey, Betty	15/15	20/20	19/19	16/16	21/21	15/15	22/22	16/16	22/22	11/11	176/177
8. Rowe, Mary Lou	15/15	18/20	17/19	15/16	21/21	14/15	21/22	16/16	22/22	10/11	168/177
9. Thompson, Susan	14/15	20/20	18/19	16/16	21/21	15/15	20/22	16/16	21/22	11/11	171/177
10. Ellis, Wayne	13/15	19/20	18/19	11/16	16/21	14/15	21/22	13/16	16/16	10/11	156/177
11. Haskell, Philip	10/15	20/20	19/19	16/16	20/21	15/15	22/22	15/16	22/22	11/11	169/177
12. Little, Michael	14/15	12/20	4/19	0/16	4/21	14/15	21/22	9/16	2/22	0/11	80/177
13. Palmer, Charles	13/15	20/20	15/19	16/16	19/21	15/15	19/22	7/16	11/22	1/11	136/177
14. Palmer, Harry	15/15	20/20	16/19	16/16	19/21	11/15	17/22	7/16	8/22	2/11	131/177
15. Wheeler, Russell	15/15	20/20	19/19	16/16	19/21	15/15	22/22	15/16	22/22	11/11	173/177

PROJECT P.A.C.E. ATTENDANCE RECORD
JACK JR. HIGH SCHOOL
CONTROL GROUP

STUDENT	DAYS IN ATTENDANCE BY MONTH										
	SEPT	OCT	NOV	DEC	JAN	FEB	MARCH	APRIL	MAY	JUNE	TOTAL
1. Allen, Cheryl	14/15	16/20	16/19	9/16	15/21	11/15	20/22	11/16	16/22	10/11	138/177
2. Athern, David	15/15	19/20	19/19	16/16	21/21	15/15	21/22	16/16	22/22	11/11	175/177
3. Cavallaro, Cynthia	14/15	11/20	16/19	11/16	9/21	8/15	14/22	9/16	12/22	6/11	110/177
4. Colello, Donato	5/15	4/20	0/19	0/16	0/21	0/15	0/22	0/16	0/22	0/11	(ind. susp.)
5. DiFiore, Alfred	14/15	8/20	15/19	3/16	4/15	(transferred to Portland High School)					44/85
6. Dorr, Rhonda	15/15	18/20	18/19	16/16	18/21	13/15	19/22	15/16	22/22	11/11	165/177
7. Fitzgerald, Bruce	13/15	16/20	19/19	13/16	10/21	13/15	14/22	6/16	18/22	11/11	133/177
8. Fitzsimmons, Daniel	14/15	10/20	7/19	7/16	10/21	6/15	9/22	6/16	6/22	(moved)	75/167
9. Kish, Barbara	14/15	20/20	19/19	15/16	20/21	15/15	22/22	16/16	20/22	11/11	172/177
0. Steeves, Donna	10/15	14/20	13/19	8/16	15/21	9/15	15/22	12/16	2/22	(discharged to work)	98/166
1. Talbot, Steven	13/15	20/20	18/19	15/16	21/21	15/15	22/22	16/16	22/22	7/11	169/177
2. Thompson, Jean	14/15	20/20	19/19	15/16	21/21	15/15	22/22	15/16	20/22	11/11	172/177
3. Tucci, Daniel	14/15	17/20	18/19	15/16	20/21	13/15	22/22	15/16	17/22	10/11	161/177
4. Young, Deborah	7/15	10/20	9/19	5/16	1/21	0/15	8/22	5/16	9/22	5/11	59/177
5. Young, Gregory	15/15	19/20	19/19	16/16	17/21	12/15	20/22	14/16	19/22	11/11	162/177

PROJECT P.A.C.E. ATTENDANCE RECORD
KING JR. HIGH SCHOOL
CONTROL GROUP

STUDENT	DAYS IN ATTENDANCE BY MONTH										
	SEPT	OCT	NOV	DEC	JAN	FEB	MARCH	APRIL	MAY	JUNE	TOTAL
1. Baert, Nancy Mae	15/15	20/20	18/19	16/16	21/21	15/15	22/22	16/16	22/22	10/11	175/177
2. Cardona, Mike	15/15	17/20	14/19	15/16	14/21	11/15	22/22	12/16	20/22	10/11	150/177
3. Cressey, David	15/15	20/20	18/19	15/16	20/21	11/15	(transferred)				99/102
4. Croto, Catherine	10/15	15/20	14/19	10/16	19/21	4/15	20/22	15/16	21/22	11/11	139/177
5. DeWever, Patricia	15/15	19/20	14/19	11/16	13/21	12/15	21/22	12/16	16/22	11/11	144/177
6. Dyer, Betty Lou	12/15	13/20	9/19	5/16	10/21	12/15	14/22	13/16	4/22	0/11	92/177
7. French, Donald	15/15	20/20	11/19	12/16	19/21	15/15	22/22	15/16	21/22	11/11	161/177
8. Gallant, Arthur	13/15	17/20	12/19	11/16	(dropped from school)						54/71
9. Hallstrom, Debra	7/15	7/20	5/19	2/16	10/21	3/15	3/22	0/16	(susp. for rem. of yr.)		37/177
10. Hambleton, Roy	14/15	19/20	16/19	14/16	16/21	14/15	19/22	14/16	20/22	11/11	157/177
11. Morse, Philip	15/15	16/20	3/19	(transferred to Jack Junior High)							34/44
12. Rubito, Susan	15/15	19/20	18/19	16/16	19/21	15/15	22/22	16/16	22/22	11/11	173/177
13. Seavey, Timothy	15/15	18/20	15/19	11/16	15/21	15/15	18/22	6/16	21/22	11/11	145/177
14. Walker, Theresa	12/15	15/20	15/19	9/16	10/21	11/15	15/22	4/16	13/22	8/11	112/177
15. Webber, Ralph	14/15	14/20	9/19	16/16	17/21	12/15	12/22	14/16	13/22	11/11	132/177

ACADEMIC ACHIEVEMENT RECORD (EXPERIMENTAL GROUP)

School Jack Junior High School

Student	Pre-Project Standardized Pre-test Date Given: May 1972 Reading Level	Pre-Project Standardized Pre-test Date Given: May 1972 Math Level	Post-Project Standardized Post-Test Date Given: Reading Level	Post-Project Standardized Post-Test Date Given: Math Level
1. Cobb, Richard	no test	no test	absent	
2. DiBiase, Robert	2.2	2.8	2.4	3.2
3. Centafonte, Dianne	3.4	3.8	3.1	2.6
4. Fournier, Steve	4.0	5.2	3.6	3.9
5. Graffam, Terry	2.7	3.9	2.5	3.7
6. Howe, Vivian	3.3	3.3	3.0	3.8
7. Manchester, Kathy	2.8	2.9	3.1	3.3
8. Maynard, Kathy	3.7	4.0	3.3	3.1
9. Murphy, Patrick	1.6	2.3	2.0	2.5
10. Pettis, Lynn	2.5	2.9	2.6	3.3
11. Price, David	2.3	3.0	2.8	2.4
12. Shepard, Peter	2.5	4.3	2.4	3.4
13. Shepard, Richard	2.3	3.3	2.5	3.5
14. Waterhouse, Philip	2.7	5.6	2.9	4.8
15. Maynard, Donna	2.2	2.2	2.3	2.6
Average	2.7	3.5	2.8	3.3
Average Increase			+ .1	- .2

ACADEMIC ACHIEVEMENT RECORD (EXPERIMENTAL GROUP)

School King Junior High School

Student	Pre-Project Standardized Pre-Test Date Given: May 1972 Reading Level	Pre-Project Standardized Pre-Test Date Given: May 1972 Math Level	Post-Project Standardized Post-Test Date Given: Reading Level	Post-Project Standardized Post-Test Date Given: Math Level
1. Colbath, Rose	3.5	3.6	6.9	5.3
2. Curran, Joanna	4.0	5.4	6.0	6.9
3. Ellis, Wayne	1.6	4.7	2.2	3.6
4. Haskell, Philip	2.5	4.2	3.5	5.1
5. Little, Michael	56% primer	2.1	1.9	3.2
6. Lunt, Sherry	1.9	3.2	2.8	4.0
7. McGann, Karen	Primer	Primer	1.5	2.0
8. Huntley, Valerie	3.7	4.0	6.4	5.7
9. Palmer, Charles	2.8	3.5	2.9	6.0
10. Palmer, Harry	2.2	2.9	2.2	3.8
11. Peavey, Betty	2.3	2.5	2.1	4.2
12. Rowe, Mary Lou	3.2	3.5	3.3	5.3
13. Thompson, Susan	3.1	5.4	4.1	7.5
14. Wheeler, Russell	3.1	2.7	3.6	4.7
15. Cummings, Katherine	3.1	2.2	2.7	3.1
Average	2.8	3.6	3.5	4.7
Average Increase			+ .7	+ 1.1

ACADEMIC ACHIEVEMENT RECORD (CONTROL GROUP)

School Jack Junior High School

	Pre-Project		Post-Project	
	Standardized Pre-test		Standardized Post-Test	
	Date Given: May 1972		Date Given:	
Student	Reading Level	Math Level	Reading Level	Math Level
Allen, Cheryl	3.7	3.7	3.6	3.7
Athern, David	3.3	5.3	5.2	4.2
Cavallero, Cynthia	2.9	3.3	3.4	3.1
Colello, Donato	(suspended)			
DiPiore, Alfred	(transferred to P.H.S.)			
Dorr, Rhonda	2.8	6.7	3.5	3.4
Fitzgerald, Bruce	2.2	2.8	2.5	2.4
Fitzsimmons, Daniel	(moved to Lewiston)			
Kish, Barbara	6.9	4.1	3.8	5.3
Steeves, Donna	(discharged)			
Talbot, Steven	4.3	4.0	3.8	6.4
Thompson, Jean	4.3	4.2	3.2	4.5
Tucci, Daniel	3.0	5.7	3.5	5.6
Young, Deborah	(absent - no scores)			
Young, Gregory	4.3	4.3	4.3	3.6
Average	3.8	4.4	3.7	4.2
Average Increase			- .1	- .2

ACADEMIC ACHIEVEMENT RECORD (CONTROL GROUP)

School: King Junior High School

	Pre-Project		Post-Project	
	Standardized Pre-Test		Standardized Post-Test	
	Date Given: May 1972		Date Given:	
Student	Reading Level	Math Level	Reading Level	Math Level
Baert, Nancy Mae	3.1	4.7	3.1	5.3
Cardona, Mike	3.6	3.9	3.7	6.0
Cressey, David	3.4	3.9	(dropped from school)	
Croto, Catherine	(absent - no scores)		2.8	4.2
DeWever, Patricia	3.4	2.5	3.3	2.9
Dyer, Betty Lou	3.4	(absent)	3.2	(absent)
French, Donald	(absent - no scores)		(absent - no scores)	
Gallant, Arthur	(dropped from school)			
Hallstrom, Debra	(dropped from school)			
Hambleton, Roy	2.9	4.3	3.1	4.0
Morse, Philip	(transferred to Jack J.H.S.)			
Rubito, Susan	2.8	3.2	3.0	4.1
Seavey, Timothy	3.5	3.3	3.2	3.3
Walker, Theresa	3.9	3.5	(absent - no scores)	
Webber, Ralph	3.6	5.3	3.4	5.6
Average	3.4	3.8	3.2	4.4
Average Increase			- .2	+ .6

PRE-VOCATIONAL PICTURE-WORD LIST
TEST SCORES
(JACK JUNIOR - EXPERIMENTAL)

STUDENT	PRE-TEST		POST-TEST	
	RAW SCORE	% CORRECT	RAW SCORE	% CORRECT
Centafonte, Dianne	128	64%	156	78%
Cobb, Richard	79	45%	suspended (left school)	
DiBiase, Robert	91	52%	153	88%
Fournier, Steve	78	44%	112	64%
Graffam, Terry	97	49%	116	67%
Howe, Vivian	120	60%	135	67%
Manchester, Kathy	117	59%	152	76%
Maynard, Donna	111	56%	146	73%
Maynard, Kathy	134	67%	160	80%
Murphy, Patrick	37	21%	69	40%
Pettis, Lynn	96	48%	143	71%
Price, David	89	51%	130	75%
Shepard, Peter	101	58%	128	74%
Shepard, Richard	69	39%	131	75%
Waterhouse, Philip	98	56%	150	86%
Average		57%		72%
Average Increase				+ 15%

PRE-VOCATIONAL PICTURE-WORD LIST
TEST SCORES
(KING JUNIOR - EXPERIMENTAL)

STUDENT	PRE-TEST		POST-TEST	
	RAW SCORE	% CORRECT	RAW SCORE	% CORRECT
Colbath, Rose	130	65%	158	79%
Cummings, Kathryn	94	47%	117	58%
Curran, Joanna	120	60%	151	75%
Ellis, Wayne	83	47%	124	71%
Haskell, Philip	95	54%	128	74%
Huntley, Valerie	118	59%	126	63%
Little, Michael	58	34%	83	48%
Lunt, Sherry	127	64%	147	73%
McGann, Karen	143	72%	152	76%
Palmer, Charles	99	56%	142	82%
Palmer, Harry	105	69%	134	77%
Peavey, Betty	115	58%	135	67%
Rowe, Mary Lou	96	48%	110	55%
Thompson, Susan	141	71%	156	78%
Wheeler, Russel	56	32%	83	48%
Average		57%		68%
Average Increase				+ 11%

PRE-VOCATIONAL PICTURE-WORD LIST
TEST SCORES
(JACK JUNIOR - CONTROL GROUP)

STUDENT	PRE-TEST		POST-TEST	
	RAW SCORE	% CORRECT	RAW SCORE	% CORRECT
Allen, Cheryl	125	63%	130	65%
Athern, David	86	49%	101	58%
Cavallero, Cynthia	128	64%	118	59%
Colello, Donato	(suspended)			
DiFiore, Alfred	(transferred to P.H.S.)			
Dorr, Rhonda	128	64%	139	69%
Fitzgerald, Bruce	107	61%	109	63%
Fitzsimmons, Daniel	(transferred to Lewiston)			
Kish, Barbara	113	57%	129	64%
Steeves, Donna	155	77%	(discharged)	
Talbot, Steven	74	42%	90	52%
Thompson, Jean	136	68%	122	61%
Tucci, Daniel	106	60%	106	60%
Young, Deborah	121	61%	119	59%
Young, Gregory	115	66%	112	64%
Average		61%		61%
Average Increase				0%

PRE-VOCATIONAL PICTURE-WORD LIST
TEST SCORES
(KING JUNIOR - CONTROL GROUP)

STUDENT	PRE-TEST		POST-TEST	
	RAW SCORE	% CORRECT	RAW SCORE	% CORRECT
Baert, Nancy Mae	138	69%	156	78%
Cardona, Mike	103	59%	106	61%
Cressey, David	92	52%	(dropped from school)	
Croto, Catherine	109	54%	121	60%
DeWever, Patricia	167	84%	170	85%
Dyer, Betty Lou	147	74%	(absent - no score)	
French, Donald	102	59%	100	57%
Gallant, Arthur	85	48%	(dropped from school)	
Hallstrom, Debra	(absent - no score)		(dropped from school)	
Hembleton, Roy	80	45%	81	46%
Morse, Philip	107	61%	(dropped from school)	
Rubito, Susan	113	57%	113	57%
Seavey, Timothy	86	49%	89	51%
Walker, Theresa	95	48%	(ill - no score)	
Webber, Ralph	87	50%	104	60%
Average		58%		61.5%
Average Increase				+ 1.8%

PROJECT P.A.C.E.
DROPOUT RECORD
CONTROL

SCHOOL Jack Junior & King Junior

STUDENT	REASON	DROPOUTS BY MONTH									
		SEPT.	OCT.	NOV.	DEC.	JAN.	FEB.	MARCH	APRIL	MAY	JUNE
1. Colello, Donato	Suspended indefinitely				Dec. 1						
2. DiFiore, Alfred	Transferred to P.H.S.					Jan. 22					
3. Fitzsimmons, Daniel	Discharged to Lewiston									June 4	
4. Steeves, Donna	Discharged to work								May		
5. Cressey, David	Moved to Gorham						Feb. 14				
6. Gallant, Arthur	Transferred to Jack					Jan. 2					
7. Hallstror, Debra	Suspended for remainder of year							Mar. 14			
8. Morse, Philip	Transferred to Jack			Nov. 13							
9.											
10.											
11.											
12.											
13.											
14.											
15.											

PROJECT P.A.C.E.
DROPOUT RECORD
EXPERIMENTAL

SCHOOL Jack Junior High School

STUDENT	REASON	DROPOUTS BY MONTH									
		SEPT.	OCT.	NOV.	DEC.	JAN.	FEB.	MARCH	APRIL	MAY	JUNE
1. Cobb, Richard	Suspended (truant)						Feb. 26				
2.											
3.											
4.											
5.											
6.											
7.											
8.											
9.											
0.											
1.											
2.											
3.											
4.											
5.											

JOB SIMULATION - PLANT SURVEY

Project PACE
Portland, Maine Public Schools

NAME OF PLANT _____ DATE _____

LOCATION _____

NAME/TITLE OF PERSONNEL REPRESENTATIVE _____

TELEPHONE _____ _____

NUMBER EMPLOYED _____ ANNUAL OPENINGS _____

JOB SIMULATION OPPORTUNITIES	OBSERVATIONS
1. _____	_____
2. _____	_____
3. _____	_____
4. _____	_____
5. _____	_____
6. _____	_____
7. _____	_____
8. _____	_____
9. _____	_____
10. _____	_____

PLANT DESCRIPTION _____

_____

_____

LIMITATIONS/CONDITIONS _____

_____

_____

AREA OF INTEREST	OCCUPATIONAL CATEGORY	LOCATION
Building & Construction	Stock personnel Yardmen Equipment oper. Helpers (basic skills in the trades)	Cianbro Portland Public Schools appropriate field trips
Industry	Stock personnel Custodial Equipment oper.	Southworth Machines Golten Ship Repair Harris Co. Gowen Inc. Portland Stove & Foundry
Business/Clerical	Filing clerk	Press Herald New England Tel & Tel Portland Public Schools
Farm/Grounds	Greenhouses Landscape Tree service	Skillins Greenhouses Millers Greenhouses Goodall Tree & Landscaping Service Parks & Recreation

AREA OF INTEREST	OCCUPATIONAL CATEGORY	LOCATION
Garage	Service station attend.	local service stations
	Parts men & women	United Auto
		AWD
	Auto/truck maint.	Haverty Buick
		Henley-Kimball
		Clement Bros.
		Portland Transmission
	Tire care/maint.	Century Tire Co.
		C. E. Noyes
		Goodyear Tire Co.
		Yudy's Tire Co.
	Auto-truck specialty	Midas Muffler
		Palmer Spring Co.
		Used Car Sales & Service
Laundry/Sewing	Cleaners	Standard Industrial Uniforms
	Repair	New System Laundry & Cleaners
		Maine Medical Center*
	Garment mfg.	Sanford Dress Corp.
		Health-Tex Inc.
	Shoe mfg.	Songo Shoe Mfg. Corp.
Materials Handling	Stock personnel	N. T. Fox Co.
	Yardmen	Portland Lumber Co.
	Delivery men	Thomas Beal Co.
	Marking, wrappers & packers	Rufus Deering Co.
		Brockway-Smith Co.
	Warehouse personnel	Farnham Co.
		Pettingill-Ross Co.
		Porteous, Mitchell & Braun Co.
		Emery-Waterhouse Co.
		Portland Public Schools
Food Service	Processors & canners	Burnham & Morrill Co.
		Luigi's Brand Food Products
		Jordan Beef Co.
		Maine Lobster Co.
		Willard-Daggett Fish Co.
		Coastal Fisheries Inc.
	Warehouses & storage	First National Stores
		Schlotterbeck & Foss Co. Extracts
		Cumberland Cold Storage Co.
		Northeast Cold Storage Corp.
	Preparation & Service to public	Village Cafe
		Sportsman Restaurant
		Nissen Bakery
		Calderwood
		H. P. Hood Co.
		Oakhurst Dairy

TEACHER SURVEY

Please indicate on the following items how you would classify the effectiveness of the present program in your school for Special Education students or any students with special needs.

Each scale runs from 1 - 10, 1 indicating the most negative aspect and 10 indicating the most positive aspects.

Please do not sign your name to this survey and answer as honestly as you can.

WEAK	:	:	:	:	:	:	:	:	:	:	STRONG
	1	2	3	4	5	6	7	8	9	10	
TOO COSTLY	:	:	:	:	:	:	:	:	:	:	TOO INEXPENSIVE
	1	2	3	4	5	6	7	8	9	10	
HARMFUL	:	:	:	:	:	:	:	:	:	:	HELPFUL
	1	2	3	4	5	6	7	8	9	10	
WORTHLESS	:	:	:	:	:	:	:	:	:	:	WORTHWHILE
	1	2	3	4	5	6	7	8	9	10	
INADEQUATE	:	:	:	:	:	:	:	:	:	:	ADEQUATE
	1	2	3	4	5	6	7	8	9	10	
INADEQUATE STAFFING	:	:	:	:	:	:	:	:	:	:	ADEQUATE STAFFING
	1	2	3	4	5	6	7	8	9	10	

STUDENT PROFILE SHEET

GRADE 6 9

SCHOOL _____

TEACHER _____

STUDENT'S NAME _____ AGE _____

HOME ADDRESS _____

STUDENT'S READING LEVEL _____

STUDENT'S READING LEVEL BASED ON: ACHIEVEMENT TEST _____

READING BOOK LIST _____ NAME, TITLE, YEAR _____

_____

STUDENT'S MATH LEVEL _____

STUDENT'S MATH LEVEL BASED ON: ACHIEVEMENT TEST _____

TEACHER OBSERVATION _____

STUDENT HAS THE BASIC KNOWLEDGE TO: ADD ° SUBTRACT ° DIVIDE ° MULTIPLY
(cirlce each that student can perform)

_____

OTHER THAN REGULAR SPECIAL EDUCATION CLASS PARTICIPATION, STUDENT HAS SUCCESSFULLY COMPLETED ACTIVITIES IN OR RELATED TO:

COMMENTS

SCIENCE _____
MATH _____
SOCIAL STUDIES _____
GYM _____
HOME ECONOMICS _____
INDUSTRIAL ARTS _____
CHORUS _____
BAND _____
SPORTS _____
HOME ROOM ACTIVITIES

_____

STUDENT'S SPECIAL INTERESTS _____

_____

STUDENT'S CONTRIBUTIONS TO SCHOOL (CROSSING GUARD, STUDENT COUNCIL, ETC.)

_____

BRIEF STATEMENT OF STUDENT'S STRENGTHS AND EXPECTATIONS: _____

_____

A CHECKLIST OF PRIMARY AND SUPPLEMENTARY TEACHING TOOLS FOR LANGUAGE ARTS

Key: (1) indicates a primary teaching tool for this area. (2) indicates a supplementary teaching tool.	READING				ENGLISH		SPELLING
	Comprehension Skills	Reading for Inform	Leisure Time Reading	Written Expression	Oral Expression	Listening Skills	
I. EQUIPMENT							
A. Controlled Reader	1						1
B. Tachistoscope	1						1
C. Language Master	1	2			1	1	1
D. Typewriter	2			2			2
E. Tape Recorder	1	1			1	1	2
F. Study Carrels	2	2	2	2	2	2	2
G. Overhead projector	2			2	2	1	2
H. Filmstrip projector	1	2		2	2		2
II. MATERIALS							
A. Phonetic Games	2	2			2		2
B. Tapes	1	2				1	2
C. Word Games	2	2		2			2
D. Tach-X Flash	2	2					2
E. Filmstrips	1	2		2	2		1
F. Dolch Books	2	2	2				
G. Specific Skill Series	1	1					
H. Reader's Digest Series	2	1	2				
I. Rochester Occupational Series	2	2					
J. Dictionary	2	1					1
K. Soundway Reading Kit		2			1	2	2
L. Library Skills	2	1		2		2	2
M. Newspaper	2	1	2	2	2		2
N. Avid Materials	1	1		1	1		1
O. Deep Sea Adventure Series	2		1				
P. Checker Flag Series	2		1				
Q. Merrill Linguistic Reader	2		1				
R. Turner-Livingston Reading Series	2		1				
S. Flash Cards	2	2					1
T. Mimeograph Sheets	2	2	2	1	2		
U. Magazines			1	1	2		
V. English 2 and 3		2		1			
W. Frostig Series	2	2		1			
X. New Practice Readers	1	2					
Y. Reading Exercises	1	2					
Z. World of Work	1	1		1	1		

LANGUAGE ARTS BIBLIOGRAPHY

American Educational Press, Inc.
Columbus, Ohio
Modern Wonder Book Library
Reading Success Series

Avid Corporation
Instructional Systems Division
10 Tripps Lane
East Providence, Rhode Island 02904
Utilities, Communication Series

Barnell Loft, Ltd.
Baldwin, New York
Specific Skill Series

Binney and Smith Company
New York, New York
Crayons
Pos-ter-art Chalk

Milton Bradley Company
Springfield, Massachusetts
Concentration
Memory Card Matching Game
Phonetic Quizmo
You Can Read Phonetic Drill Cards

Bremner-Davis Phonics, Inc.
Wilmette, Illinois
The Sound Way to Easy Reading - transparency kit

Continental Press, Inc.
Elizabethtown, Pennsylvania 17022
English 2
English 3

Educational Development Laboratories, Inc.
H. B. Educational Systems Inc.
21 Audio Lane
New Haven, Connecticut
Controlled Reader, Jr.
Controlled Reading Study Guide-adult level
Listen Learning Tape Set
Listen and Read Books
Listen and Read Tape Series
Listen and Think Program-level 6
LTF Lesson Book
Set CR-AA Story Filmstrips-adult level
Set tx-BA Word Recognition Filmstrips-level 2
tach-x Word Recognition Book BA-level 2
Set tx-CA Word Recognition Filmstrips-level 3
tach-x Word Recognition Book CA-level 3
Set TX-AA Word Recognition Filmstrips R1-adult
tach-x Word Recognition Book RA-AA level R-1

LANGUAGE ARTS BIBLIOGRAPHY (CONT.)

Field Educational Publications, Inc.
San Francisco, California
Checkered Flag Series

Follett Educational Corporation
Chicago, Illinois
Adventures of Primero Dinero
Developmental Program in Visual Perception-Advanced Patterns and Pictures
Turner Livingston Reading Series

Gerrard Publishing Company
Champaign, Illinois
Dolch Basic Book Series
Group Word Teaching Game
Dolch Vowel Cards

Golden Press
New York, New York
Golden Book Picture Dictionary

J. L. Hammett Company
Hammett Place
Braintree, Massachusetts 02184
Phlounder
Spill and Spell

Harr Wagner Publishing Company
San Francisco, California
Deep Sea Adventures

Ideal School Supply Company
Chicago, Illinois
Ideal Magic Cards
Ideal Syllable Rule and Accent Clue Tapes
Ideal Word Building Tapes

The Interstate
19-27 Jackson Street
Danville, Illinois
Tool Identification Kit

J. B. Lippincott Company
New York, New York
Reading for Meaning

Lyons and Carnahan, Inc.
407 East 25th Street
Chicago, Illinois
Phonics Games
Phonics We Use Learning Games Kit

LANGUAGE ARTS BIBLIOGRAPHY (CONT.)

McGraw Hill Company
New York, New York
Captioned Filmstrips
Step Up Your Reading Power, Books a-d

Charles E. Merrill Books, Inc.
Columbus, Ohio
Merrill Linguistic Readers

G. & G. Merriam Company
Springfield, Massachusetts
Webster's New Practical School Dictionary

Mincom Division
3M Company
St. Paul, Minnesota
Wollensak Teaching Tapes

Minneapolis Public Schools
Vocational School Print Shop
Minneapolis, Minnesota
Guide to Teaching Drafting

Noble and Noble Publishers, Inc.
New York, New York
Short Stories of Famous Men

Gates Peardon
High Interest-Low Level Test
Teachers College Press
Teachers College, Columbia University
525 West 120th Street
New York, New York
Introductory Preparatory Set
Introductory Preparatory Record Sheets
Introductory Specimen Set

Portland Public Schools Reading Department
Portland, Maine
Games Series

Psychotechnics
Glenview, Illinois 60025
Psychotechnics

Reader's Digest Services, Inc.
Pleasantville, New York
Reader's Digest New Reading Skill Builder
Reader's Digest Reading Skill Builder
Reader's Digest Reading Skill Practice Pad Series

LANGUAGE ARTS BIBLIOGRAPHY (CONT.)

Science Research Associates, Inc.
259 East Erie Street
Chicago, Illinois 60611
Computational Skills Development Kit
Student Record Books
Exercise Cards - Set of Whole Numbers
Reading Laboratory Program - 1a, 1b, IIb, 1c
Starter Set A (addition and subtraction)
Starter Set B (multiplication and division)

Scott, Foresman and Company
Chicago, Illinois
Thorndike Barnhart Advanced Junior Dictionary

Selchow and Richter Company
Bayshore, New York
Scrabble for Juniors

Syracuse University Press
Syracuse, New York
Rochester Occupational Reading Series

Valiant IMC
237 Washington Avenue
Hackensack, New Jersey 07602
Adventure Series

Visualcraft, Inc.
Wichata, Kansas
Visual-Craft Transparencies

Webster Division of McGraw Hill
1221 Avenue of the Americas
New York, New York 10020
New Practice Readers Books A-C

A CHECKLIST OF PRIMARY AND
SUPPLEMENTARY TEACHING TOOLS FOR
MATH

Key: (1) indicates a primary teaching tool for this area. (2) indicates a supplementary tool.	MATH													
	fundamentals	time	measurement	vocabulary	directions	shapes	currency	income	purchasing	budgeting	insurance	banking	taxes
I. EQUIPMENT														
A. Adding machine	2						2	2	2	2	2	2	2
B. Monroe calculator	2						2						
C. Clocks		1	2	2	2				2	2		2	
II. MATERIALS														
A. Learning to Compute I & II	1						2						
B. Continental Press Math Series	1						2						
C. Everyday Business	2						1	1	2	1	1	1	1
D. Modern Math Lab Text	1		2		2	2	1						
E. Turner Livingston Series	2			2	2		2	2	2	2	2	2	2
F. Mimeographs	2	2	2	2	2	2	2	2	2	2	2	2	2
G. Individual Math Drill & Practice Kit	1												
H. SRA Computational Skills Kit	1						2						
I. SRA Fact Kit	1												
J. Merrill Math Skill Tapes	1			1			2						
K. Games	2	2			2	2	2	2	2	2	2	2	2
L. Abacus	2												
M. Tapes	1						2					2	
N. Avid Corporation	1				1	1	1	1	1	1	1	1	1
O. World of Work	1				2		1	1	1	1	1	1	1
P. Flash cards	2			1									
Q. Geometric figures and shapes			2		2	1							
R. Rulers	2		1		2								
S. Yardsticks			1		2								
T. Tape measure			1		2								
U. Thermometers (various types)			1										
V. Thermostats			1										
W. Speedometer			1										
X. Odometer			1										
Y. Maps			1		1								
Z. Banking form		2		2			2	2					

A CHECKLIST OF PRIMARY AND
SUPPLEMENTARY TEACHING TOOLS FOR
MATH

Key: (1) indicates a primary teaching tool for this area.

(2) indicates a supplementary tool.

	MATH												
	fundamentals	time	measurement	vocabulary	directions	shapes	currency	income	purchasing	budgeting	insurance	banking	taxes
II. MATERIALS (Cont.)													
Aa. Everyday forms		2		2			2	2	2	2	2	2	2
Bb. Flannel board	1	1	1	1	1	1	1						
Cc. Money	1						1	1	1	1		1	
Dd. Calendars		1					2	2	2	1	1	1	1
Ee. Containers			1	1		1							
Ff. Globe					1								
Gg. Newspapers	1	1	1	1	1		1	1	1	1	1	1	1
Hh. Unifix Series	2												
Ii. Color factor rods	2												

MATH BIBLIOGRAPHY

Milton Bradley Company
Springfield, Massachusetts
- Easy Money
- Flash cards - addition, subtraction, multiplication, division
- Fractions are Easy as Pie
- Geometric Figures and Solids
- Primary Number and Geometry Board
- Quizmo-addition, subtraction, multiplication, division
- Ten-Tens Counting Frame

Broughton Calculators
31 East 28th Street
New York, New York
- Nippon Master Hand Operated Desk Calculator
- Problem Cards - Sets A & B

California Central Press
Sacramento, California
- Everyday Business

Continental Press
Elizabethtown, Pennsylvania
- Continental Practice Exercises in Arithmetic 3-6

Creative Publications
5 Bridge Street
P. O. Box 153
Watertown, Massachusetts
- Checkline

Fearon Publishing Company
Palo Alto, California
- Time and Telling Time

Follett Educational Corporation
Chicago, Illinois
- Adventures of Primero Dinero

J. L. Hammett Company
Hammett Place
Braintree, Massachusetts 02184
- Addo
- Fractions are Easy as Pie
- Heads Up
- Rack-O
- The Winning Touch

MATH BIBLIOGRAPHY (CONT.)

Harcourt, Brace and World, Inc.
New York, New York
Learning to Compute, 1 & 2

D. C. Heath and Company
Lexington, Massachusetts
Playing Card Number Games

Kenworthy Educational Services
Buffalo, New York
Multo-Arithmetic Game

Math Media, Inc.
Box 345
Danbury, Connecticut 06810
Pedameter
Yahtzee Game

Charles E. Merrill Publishing Company
Columbus, Ohio
Base Ten System of Counting
Merrill Mathematics Skill Tapes

Mincom Division
3M Company
St. Paul, Minnesota
Wollensak Teaching Tapes

Multi-Media Instructional Materials
Stanley Bowman Company, Inc.
Valhalla, New York 10595
Addo
Combinations Are Fun
Let's Go Shopping Bingo
Strike

Science Research Associates, Inc.
259 East Erie Street
Chicago, Illinois 60611
SRA Fact Kit
SRA Factpacer

Selective Educational Equipment, Inc.
3 Bridge Street
Newton, Massachusetts
Covrup Cover Up
Multibase Loop Abacus
Multo 1 Multiplying Machine
Oh-wah-ree
Timer 3

MATH BIBLIOGRAPHY (CONT.)

L. W. Singer
249 East Erie Boulevard
Syracuse, New York 13201
Individualized Mathematics Drill and Practice Kit

A CHECKLIST OF PRIMARY AND SUPPLEMENTARY TEACHING TOOLS FOR SOCIAL STUDIES

Key: (1) indicates a primary teaching tool for this area

(2) indicates a supplementary teaching tool for this area

	SOCIAL STUDIES								
	social & personal adequacies	vocational attitudes	civic responsibilities	current happenings	government functions	environmental conditions	cult. & hist. understandings	directionality
I. EQUIPMENT								
II. MATERIALS								
A. Authentic map of the U. S.				2		2	2	1
B. Game of the States				2		2	2	1
C. You and Your World			1		1		2	
D. Eddie in School	2		2					
E. Plans for Living	1		2					
F. World Traveler				1		1	1	1
G. Know Your World	2	2	1	1	2	1	1	
H. Social Studies tapes			2				1	
I. Highway maps				2		2	2	1
J. Globe				2		2	2	1
K. Environment films	2	2	2	2	2	1	2	
L. Filmstrips	1	2	2	2	2	2	2	
M. Rochester Occupational Series	2	2	2		2	2	2	
N. Turner Livingston Series	1	1	2		2			
O. Avid Corp. Series	1	1	1					
P. World of Work Series	1	1	1					
Q. Teacher-made units			1	1	1		1	1
R. Newspapers			1	1	1	1	1	1
S. Magazines	2	2	2	2	2	2	2	2
T. Transparencies	2	2	2	2	2	2	2	2

SOCIAL STUDIES BIBLIOGRAPHY

Alexander Graham Bell Association for the Deaf
Washington, D. C.
World Traveler

Avid Corporation
Instructional Systems Division
10 Tripps Lane
East Providence, Rhode Island 02904
Employment Opportunities Series

Bell Telephone Company
Business Office
Telezonia

Milton Bradley Company
Springfield, Massachusetts
Authentic Map of the United States
Game of the States

Fearon Publishers
Palo Alto, California
Eddie in School
Plans for Living
You and Your World

Garrard Publishing Company
Champaign, Illinois
Discovery Books
World Explorer Series

Golden Press
New York, New York
Golden Treasury of Knowledge

R. R. MacGregor
Box 171
Center Harbor, New Hampshire 03226
County Map Puzzle
Maine's Maps

MacMillan Company
New York, New York
Living Together as World Neighbors

Maine State Highway Commission
Augusta, Maine
Highway Maps of Maine

SOCIAL STUDIES BIBLIOGRAPHY (CONT.)

Mincom Division
3M Company
St. Paul, Minnesota
Wollensak Teaching Tapes

Teacher Products
2304 E. Johnson
Jonesboro, Arkansas 72401
World of Work Series
World of Work Workbooks

J. Weston Walch, Publisher
Portland, Maine
Maine History Can Be Fun

A CHECKLIST OF PRIMARY AND SUPPLEMENTARY TEACHING TOOLS FOR SCIENCE

Key: (1) indicates a primary teaching tool for this area

(2) indicates a supplementary tool

	SCIENCE				
	health	safety	self-concept	environment	simple biological concepts
I. EQUIPMENT					
II. MATERIALS					
A. Elementary Science Kits	2	1	1	1	1
B. Filmstrips	2	2	2	2	2
C. Films	2	2	2	1	2
D. Super machine	1		1		1
E. Plans for Living Series	1	1	1		2
F. Toothbrush & hair care set	1		1		
G. Cotton kit				1	1
H. Newspaper	1	1	1	1	1
I. Magazines	1	2	2	2	2
J. Mimeographs	2	2	2	2	2
K. Posters	2	2	2	2	2
L. Weather reports			1		
M. Know Your World	2	2	2	2	2
N. Reader's Digest Science	2	2	2	2	2
O. Skillbuilder Series					
P. Sex education unit	1		1		1
Q. Drug education unit	1	1	1		1
R. Wonder Science Library	2	2	2	2	2

SCIENCE BIBLIOGRAPHY

Children's Press
Chicago, Illinois
The True Science Library Series

Golden Press
New York, New York
The Golden Book Encyclopedia of Natural Science

J. L. Hammett Company
Hammett Place
Braintree, Massachusetts 02184
Air Stone Diffusers
Duomatic Single Tube Heater Thermostat
Dynaflo Motor Filter
Filter Charcoal
Filter Glass Wool
Multiple Gang Control Air Valve
Plastic Hanging Aquarium Thermometer

McGraw Hill Company
330 West 42nd Street
New York, New York
Conservation is Everybody's Business Series
Earth and Sky Series
Introduction to Physiology Series

Scott Foresman Company
Chicago, Illinois
Time for Poetry by Mary Hill Arbuthnot

RESULTS OF WORK VALUES INVENTORY

7th Grade Boys & Girls

		Experimental	Control	National	Comments
1.	Altruism	11.13	12.33	12.53	
2.	Esthetics	9.7	11.06	10.18	
3.	Creativity	10.67	11.68	11.75	
4.	Intellectual Stimulation	10.00	10.23	11.60	
5.	Achievement	11.52	12.23	12.65	
6.	Independence	10.43	10.95	11.39	
7.	Prestige	9.93	11.84	11.48	
8.	Management	11.33	11.26	10.30	
9.	Economic Returns	11.9	13.74	12.68	
10.	Security	11.57	13.19	12.95	
11.	Surroundings	11.85	12.75	12.05	
12.	Supervisory Relations	12.27	12.86	12.36	
13.	Associates	11.9	11.95	11.44	
14.	Way of Life	10.38	13.03	13.01	
15.	Variety	9.28	11.28	10.60	

RESULTS OF WORK VALUES INVENTORY

8th Grade Boys & Girls

		Experimental	Control	National	Comments
1.	Altruism	13.12	12.45	12.29	
2.	Esthetics	12.12	12.20	9.18	
3.	Creativity	12.15	11.87	11.39	
4.	Intellectual Stimulation	10.5	11.54	11.64	
5.	Achievement	12.57	13.12	12.64	
6.	Independence	12.58	10.45	11.39	
7.	Prestige	12.65	12.75	11.30	
8.	Management	11.5	11.54	9.75	
9.	Economic Returns	13.5	13.29	12.78	
10.	Security	11.86	13.5	13.00	
11.	Surroundings	12.5	13.42	12.06	
12.	Supervisory Relations	11.62	12.88	12.47	
13.	Associates	11.9	11.87	11.28	
14.	Way of Life	12.86	13.17	13.18	
15.	Variety	11.4	10.08	10.42	

RESULTS OF WORK VALUES INVENTORY

9th Grade Boys & Girls

		Experimental	Control	National	Comments
1.	Altruism	12.24	13.25	12.27	
2.	Esthetics	12.54	10.75	9.32	
3.	Creativity	12.83	13.15	11.26	
4.	Intellectual Stimulation	12.07	10.55	12.56	
5.	Achievement	12.62	13.1	12.68	
6.	Independence	11.43	11.9	11.38	
7.	Prestige	12.40	11.15	11.31	
8.	Management	11.97	10.6	9.73	
9.	Economic Returns	12.97	12.95	12.6	
10.	Security	12.95	13.5	13.01	
11.	Surroundings	12.71	13.4	11.99	
12.	Supervisory Relations	14.17	14.	12.42	
13.	Associates	11.24	12.7	11.09	
14.	Way of Life	12.74	13.3	13.24	
15.	Variety	11.12	10.2	10.52	